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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended): A method of displaying nodes within a network topology, the method using a processor coupled to a display screen, the method comprising:

forming a first layer of a multi-layer representation wherein at least two nodes are represented separately;

grouping the nodes of the first layer into group nodes to form a second layer in the multi-layer representation;

grouping the group nodes of the second layer into a third layer, the third layer having at least one connected-superset node containing group nodes with nodes communicatively connected to each other, and at least one isolated-superset node containing group nodes having nodes not ~~physically~~ communicatively connected to each other or to the nodes of the connected-superset node; and

displaying the superset nodes in the third layer so the connected-superset node is separate from the isolated-superset node to show a lack of connection and such that the connected-superset node is selectively expandable to display group nodes and connections between the nodes, and the isolated-superset node is selectively expandable to display group nodes of the second layer.

2. (original): The method of claim 1, wherein the step of forming comprises a step of creating a graph of nodes to be displayed in the network as a leaf graph.

3. (original): The method of claim 2, wherein the leaf graph includes components and interconnection paths of the network.

4. (original): The method of claim 1 wherein the group nodes in the connected-superset node are laid out according to layout rules.

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5. (original): The method of claim 4 wherein the group nodes in the connected-superset node comprises any one or more of switch groups and host groups.

6. (original): The method of claim 5 wherein a layout rule consists of the switch group with the highest connectivity being placed in the center of the connected-superset node.

7. (original): The method of claim 1 wherein the connected-superset node is fully expandable while the isolated-superset node is minimized.

8. (original): The method of claim 1 wherein the isolated-superset node comprises any one or more of unmapped hubs and isolated switches.

9. (original): The method of claim 1 wherein the isolated group node consists of isolated devices other than unmapped hubs and isolated switches.

10. (currently amended): A method of displaying nodes within a network topology, the method using a processor coupled to a display screen, the method comprising:

forming a first layer of a multi-layer representation wherein at least two nodes are represented separately;

grouping the nodes of the first layer into group nodes to form a second layer in the multi-layer representation;

grouping the group nodes of the second layer into a third layer, the third layer having at least one connected-superset node containing group nodes with nodes communicatively connected to each other, but not connected to any other nodes belonging to other connected-superset nodes; and

displaying the connected-superset node in the third layer in a display such that the connected-superset node is selectively expandable to display group nodes and connections between the nodes in the display.

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11. (original): The method of claim 10 wherein grouping the group nodes of the second layer into a third layer further comprises, the third layer having at least one isolated-superset node containing group nodes having nodes isolated from each other; and

displaying the superset nodes in the third layer so the connected-superset node is separate from the isolated-superset node and such that the connected-superset node is selectively expandable to display group nodes and connections between the nodes, and the isolated-superset node is selectively expandable to display group nodes of the second layer.

12. (currently amended): A computer-based method for graphically displaying a network, comprising:

forming a first layer of a multilayer representation of the network including representations of a plurality of nodes, the first layer including components and communicative interconnections of the network;

forming a second layer of the multilayer representation by grouping the plurality of nodes into two or more group nodes based on grouping criteria;

forming a third layer of the multilayer representation by grouping the group nodes into sets of nodes, wherein the sets of nodes are not ~~physically~~ communicatively connected; and

displaying the multilayer representation including the nodes, the group nodes, and the sets of nodes and the interconnections, wherein the group nodes in the second layer can be expanded to selectively display one or more of the plurality of nodes and the sets of nodes in the third layer can be expanded to selectively display one or more of the group nodes in the multilayer representation.

13. (previously presented): The method of claim 12, wherein the grouping criteria are based on functional relationships.

14. (previously presented): The method of claim 13, wherein the functional relationships are defined to not require physical proximity in the network.

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15. (previously presented): The method of claim 12, further including during the expansion of the group nodes, continuing to display connections of the displayed nodes to remaining ones of the group nodes that have not been expanded.

16. (previously presented): The method of claim 12, wherein the sets of nodes include a connected-superset node comprising the nodes connected to each other and an isolated-superset node comprising a set of the nodes not connected to other ones of the nodes.

Please add the following new claims:

17. (new): A computer program product storing executable instructions on a computer readable medium for performing a programmed process that displays a multi-layer representation of a network topology, the programmed process comprising:

discovering the network topology to identify nodes and interconnections, wherein each node represents a component in the network topology and each interconnection represents a communicative coupling between at least two components in the network topology, and wherein at least one component is not communicatively coupled to any other component in the network topology;

forming a first layer of the multi-layer representation to include nodes and interconnections,

forming a second layer of the multi-layer representation by grouping the plurality of nodes in the first layer into a plurality of group nodes;

forming a third layer of the multi-layer representation by grouping the plurality of group nodes in the second layer into a plurality of superset nodes, wherein the plurality of superset nodes comprise at least one connected-superset node having associated group nodes with nodes communicatively coupled to each other and at least one isolated-superset node having associated group nodes having nodes not communicatively coupled to each other or to the nodes of the connected-superset node; and

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displaying the plurality of superset nodes of the third layer such that the connected-superset node is separate from the isolated-superset node, wherein the connected-superset node is expandable to display the associated group nodes of the connected-superset node and the isolated-superset node is expandable to display the associated group nodes of the isolated-superset node.

18. (new): The computer program product of claim 17 wherein the displaying operation comprises:

displaying connections between group nodes and displaying connections between nodes within each group node.

19. (new): The computer program product of claim 17 further comprising:

displaying the plurality of superset nodes, wherein the connected-superset node is collapsible to display a single representation of the connected superset node and the isolated-superset node is collapsible to display a single representation of the isolated-superset node.

20. (new): The computer program product of claim 17 further comprising:

displaying the plurality of group nodes of the second layer, wherein the plurality of group nodes are expandable to display the nodes of the first layer that correspond to the respective group node while continuing to display connections between the displayed nodes and unexpanded group nodes.

21. (new): The computer program product of claim 20 further comprising:

displaying the plurality of group nodes of the second layer, wherein the nodes of the first layer that correspond to the respective group node is collapsible to display a single representation of the group node.

22. (new): The computer program product of claim 17 further comprising:

creating a first grid for each superset node of the third layer; and

populating the first grid with group nodes from the second layer.

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23. (new): The computer program product of claim 22 further comprising:
creating a second grid for each group node of the second layer; and
populating the second grid with nodes from the first layer.

24. (new): The method of claim 1, further comprising:
discovering the network topology to identify nodes and interconnections, wherein each node represents a component in the network topology and each interconnection represents a communicative coupling between at least two components in the network topology, and wherein at least one component is not communicatively coupled to any other component in the network topology.

25. (new): The method of claim 10, further comprising:
discovering the network topology to identify nodes and interconnections, wherein each node represents a component in the network topology and each interconnection represents a communicative coupling between at least two components in the network topology, and wherein at least one component is not communicatively coupled to any other component in the network topology.

26. (new): The method of claim 12, further comprising:
discovering the network topology to identify nodes and interconnections, wherein each node represents a component in the network topology and each interconnection represents a communicative coupling between at least two components in the network topology, and wherein at least one component is not communicatively coupled to any other component in the network topology.

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